



ASX ANNOUNCEMENT



31 October 2018

SEPTEMBER 2018 QUARTERLY REPORT

Highlights

- **Positive Definitive Feasibility Study for Authier Lithium Project shows potential for a profitable and sustainable new lithium mine**
- **Increased Ore Reserve estimate for Authier to 12.1 million tonnes**
- **Encouraging high-grade lithium assays from Tansim**
- **Drilling at Mallina identifies spodumene pegmatites**
- **Tabba Tabba project advanced with new lithium anomalies identified and drilling planned**
- **Executive team strengthened with new Canadian VP to drive Authier development**

Sayona Mining Limited (ASX: SYA) ("Sayona" or the "Company") is pleased to announce the activities report for the quarter.

The completion of the Definitive Feasibility Study (DFS) for the Authier Lithium Project (Authier) in Canada will be a transformative event for Sayona as it evolves to the development stage. The Company is well funded to enable it to complete Authier permitting activities and move into the engineering, procurement, construction and management phases, and drilling of two prospective Western Australian lithium projects.

Authier Project

Authier is a hard rock spodumene lithium deposit scheduled for development as an open cut mine initially producing a 6% spodumene concentrate. Production is planned to commence in 2020.

On 24 September 2018, the Company announced a positive DFS for the flagship Authier project. The DFS confirmed the project's potential to deliver a profitable and sustainable new lithium mine that will provide new jobs, investment and other benefits for all stakeholders.

The new mine could create 150 jobs in construction and up to 160 jobs in operation, with the Company giving priority to local employment and suppliers. Sayona is targeting a number of potential markets for its product, which is in increasing demand due to the role of lithium-ion battery technology in the clean energy revolution for cars and electricity.

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Key findings of the DFS include:

- Pre-tax net present value (NPV) of C\$184.8m (AUD \$194.0m), pre-tax internal rate of return (IRR) of 33.7% and estimated payback of 2.6 years
- Annual average concentrate production of 87,400 tonnes at 6% Li₂O;
- Average annual revenue of C\$80 million;
- Mine gate cash costs of C\$416/t and FOB Port cash costs of C\$482/t (US\$366/t);
- Initial capital expenditure of C\$89.9 million;
- Updated Ore Reserve of 12.10 Mt @ 1.00% Li₂O (Proven Reserve 6.10Mt @ 0.99% Li₂O and Probable Reserve 6.00 Mt @ 1.02% Li₂O) delivers a mine life of 18 years.

The Authier deposit will be mined by open cut methods enhanced by the shallow and thick nature of the mineralisation, allowing spodumene ore to be processed from the commencement of mining. The DFS demonstrated a LOM strip ratio of 6.9:1 (waste to ore) providing a low mining cost.

The Company will continue to pursue opportunities to optimise and enhance the value of the project, including:

- Additional definition and expansion drilling to optimise the size of the resource and reserves and extend the project mine life. The drilling will target potential shallow extensions of the resource in the eastern and western sectors which have the potential to reduce the overall waste to ore ratio;
- Further metallurgical test work to improve processing metallurgical recoveries. The DFS assumes a metallurgical recovery of 78% and a 6% Li₂O concentrate grade however recovery rates of up to 79% and concentrate grades higher than 6% Li₂O have been achieved in metallurgical testing; and
- Completing a Pre-Feasibility Study (PFS) to assess the economic and technical viability of producing lithium hydroxide and/or carbonate from Authier spodumene concentrates at a site to be determined.

Completion of the Community Consultation Program

Before a Mining Lease can be granted for a metal mine project where the mine has a production capacity of less than 2,000 tonnes per day, a public consultation initiated by the proponent must be held in the region in which the mine will be located.

On August 18th, the Company ended its three months consultation period. Sayona held three public consultation sessions with different stakeholders located near the Project (La Motte, Pikogan and Amos). The purpose of these meetings was to present the results of the environmental studies, the progress of the project and to take into account the concerns of people in related to the project. Communication channels continue to be maintained with stakeholders to ensure full transparency with local partners.

The public consultation process, based on the Mining Act, contained recommendations for project improvements. A number of these measures will be adopted to further enhance the project.

Sayona is confident that all necessary approvals can be achieved within the planned development timetable.

Increased JORC Resources and Reserves for Authier

In September Sayona announced updated Resource and Reserve estimates for the Authier project.

The DFS, demonstrated the technical and financial viability of constructing an open-cut mining operation and processing facility producing spodumene concentrate.

The positive DFS is considered sufficient to determine, in accordance with the JORC Code 2012, that a subset of the Measured and Indicated Mineral Resource be classified as Ore Reserves – see Table 1:

Table 1- Authier JORC Ore Reserve Estimate (0.55% Li ₂ O cut-off grade)			
Category	Tonnes (Mt)	Grades (% Li ₂ O)	Contained Li ₂ O (t)
Proven Reserve	6.10	0.99	60,390
Probable Reserve	6.00	1.02	61,200
Total Reserves	12.10	1.00	121,590

Note: The Ore Reserve Estimate is inclusive of dilution and ore loss.

The Authier project has been subject to more than 31,000 metres of drilling. Between 2010 and 2012 Glen Eagle, the previous tenement holders, completed 8,990 metres of diamond drilling in 69 diamond drill holes (DDH) of which 7,959 metres were drilled on the Authier deposit; 609 metres (five DDH) were drilled on the northwest and 422 metres on the south-southwest of the property.

Sayona Mining has completed three phases of drilling totalling more than 11,000 metres in 81 DDH. All the holes completed by Sayona and included in the Mineral Resource Estimate have used standard DDH, HQ or NQ core diameter size, using a standard tube and bit. The drilling programs have been subject to very robust QA/QC procedures.

A revised independent JORC Mineral Resource (2012) estimate has been prepared and is outlined in Table 2.

Table 2 – Authier JORC Mineral Resource Estimate (0.55% Li ₂ O cut-off grade)			
Category	Tonnes (Mt)	Grades (%Li ₂ O)	Contained Li ₂ O
Measured Resource	6.58	1.02	67,100
Indicated Resource	10.60	1.01	107,100
Mea. + Ind. Resource	17.18	1.01	174,200
Inferred Resource	3.76	0.98	36,800
Total Resource	20.94	1.01	211,000

Tansim Prospect

Tansim is situated 82 kilometres south-west of the Authier lithium project in Quebec. It comprises 65 mineral claims of approximately 12,000 hectares, and is prospective for lithium, tantalum and beryllium.

During the period large spodumene crystals were identified in an initial reconnaissance visit to the site. Mapping and sampling programs were then planned to define drill targets.

Selective sampling was undertaken at Tansim's priority prospects, Viau-Dallaire, Viau and Gauthier with a total of 21 samples taken over exposed pegmatites. Grab samples were taken mostly in areas with visible spodumene.

Encouraging assay results include:

- Viau-Dallaire : 14 grab selective samples ranging from 0.96% Li₂O to 2.47% Li₂O
- Viau: 4 grab selective samples ranging from 0.22% Li₂O to 4.5% Li₂O
- Gauthier: 3 grab selective samples that did not return significant Li₂O grade

In all cases high-grade lithium results were associated with albite-spodumene pegmatite with coarse grain spodumene crystals up to 30 centimetres in length. The assays reported were all very low in iron content (averaging 0.63%).

Permits for drilling are being submitted. Exploration is being closely co-ordinated with the local First Nations Group, Long Point First Nation, who will provide support services for future work programs.

The priority focus of the exploration program is to define drilling targets at the following priority prospects:

- Viau Dallaire – a 300 metre long dyke, dipping 40 degrees north, and 12 to 20 metres in thickness. Three channel samples include 10.3 metres @ 1.40% Li₂O, 11.15 metres @ 0.84% Li₂O & 18.95 metres @ 0.94% Li₂O (including 7.3 metres at 1.77% Li₂O); and
- Viau – pegmatites have been mapped up to 200 metres long and 30 metres wide. Two separate channel samples returned grades of up to 2.77% Li₂O and 1.37% Li₂O over 3.2 metres, respectively.

Western Australian Projects

Western Australia is a premium lithium province with world-class, high-grade lithium deposits associated with rare metal pegmatites.

Sayona's leases in the Pilbara region cover some 1898km² and are centred in the world class Pilgangoora lithium district. Exploration during the quarter included RC drilling at the Mallina project, (see figure below), where three zones of spodumene pegmatite were targeted. Other work included the collection of 157 rock and 619 soil geochemical samples during reconnaissance over regional tenure as well as detailed soil geochemistry and pegmatite mapping at Tabba Tabba, E45/2364. Pilbara lithium tenure is displayed in the figure below.

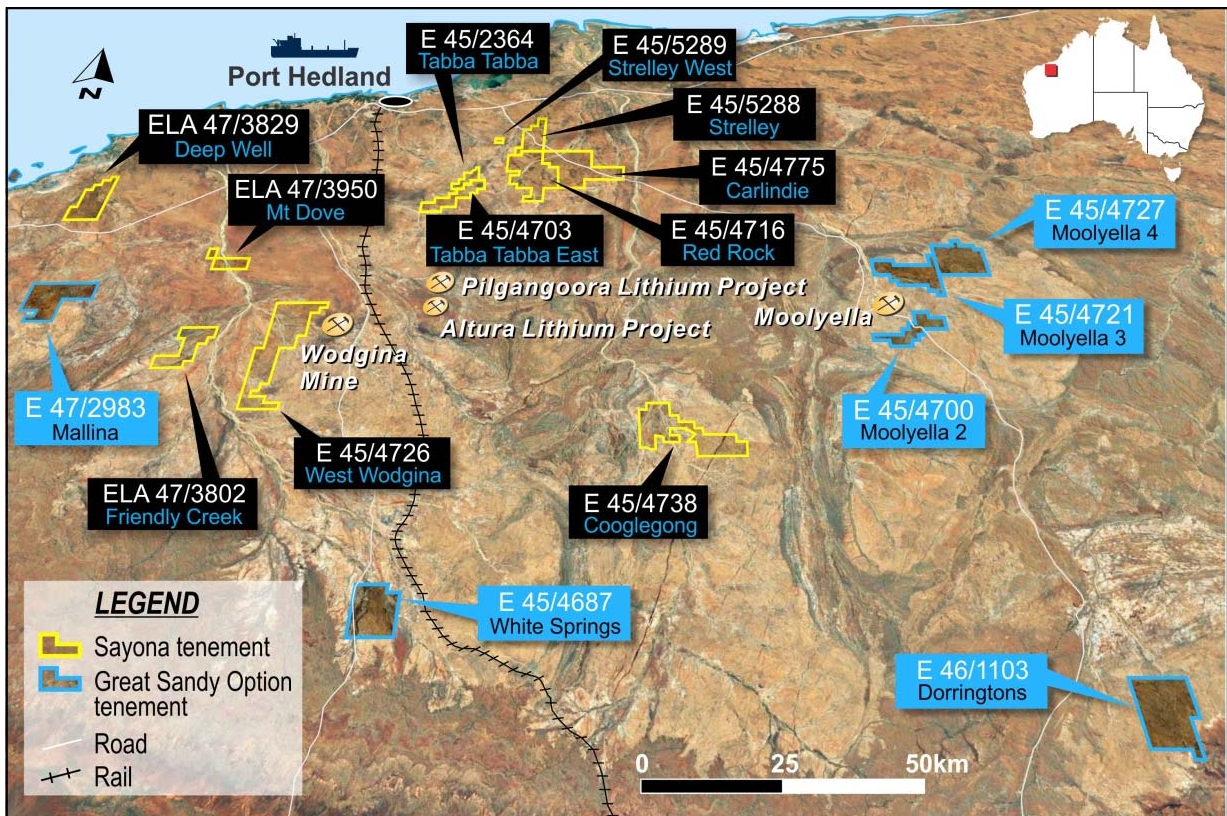


Figure 1: Sayona Lithium Tenements in Western Australia

Mallina Project

Of the Pilbara tenements, the Mallina project is the most advanced with multiple zones of spodumene pegmatite identified within a 25km² zone.

During the quarter a total of 30 reverse circulation drill holes for 2,225 metres were completed over four spodumene pegmatite prospects. Drilling intersected a varied suite of pegmatite and aplite bodies. Spodumene bearing pegmatites returned intercepts including 4m@ 2.18% Li₂O (from surface, SMRC040 – Area C) and 6m@1.64% Li₂O (from 17m, SMRC044 – Discovery). Lithium assay results are presented in Table 1 and displayed in the figure overleaf.

Table 1 – Selected Drill assay intercepts above 0.50% Li₂O

Hole ID	Prospect	Easting	Northing	From	To	Intercept
SMRC019	Area C	607274	7670731	9m	10m	1m @ 0.90% Li ₂ O
and				14m	15m	1m @ 0.58% Li ₂ O
SMRC025	Area C	607215	7670362	17m	20m	3m @ 0.59% Li ₂ O
SMRC030	Area C	607264	7670303	49m	50m	1m @ 0.60% Li ₂ O
SMRC040	Area C	607365	7670852	0m	4m	4m @ 2.18% Li ₂ O
including				2m	3m	1m @ 3.18% Li ₂ O
and				12m	15m	3m @ 0.87% Li ₂ O
SMRC041	Pegmatite 2	610358	7670120	0m	4m	4m @ 0.93% Li ₂ O (abandoned)
SMRC042	Pegmatite 2	610358	7670117	4m	24m	20m @ 1.12% Li ₂ O
and				28m	40m	12m @ 0.87% Li ₂ O
SMRC044	Discovery	605852	7671720	17m	23m	6m @ 1.64% Li ₂ O
SMRC046	Discovery	605780	7671572	24m	25m	1m @ 1.26% Li ₂ O
SMRC047	Discovery	605764	7671586	14m	15m	1m @ 0.96% Li ₂ O

Note: Datum is Australian Geodetic MGA Zone 50 (GDA94). Intercepts calculated using a 0.50% lower cut.

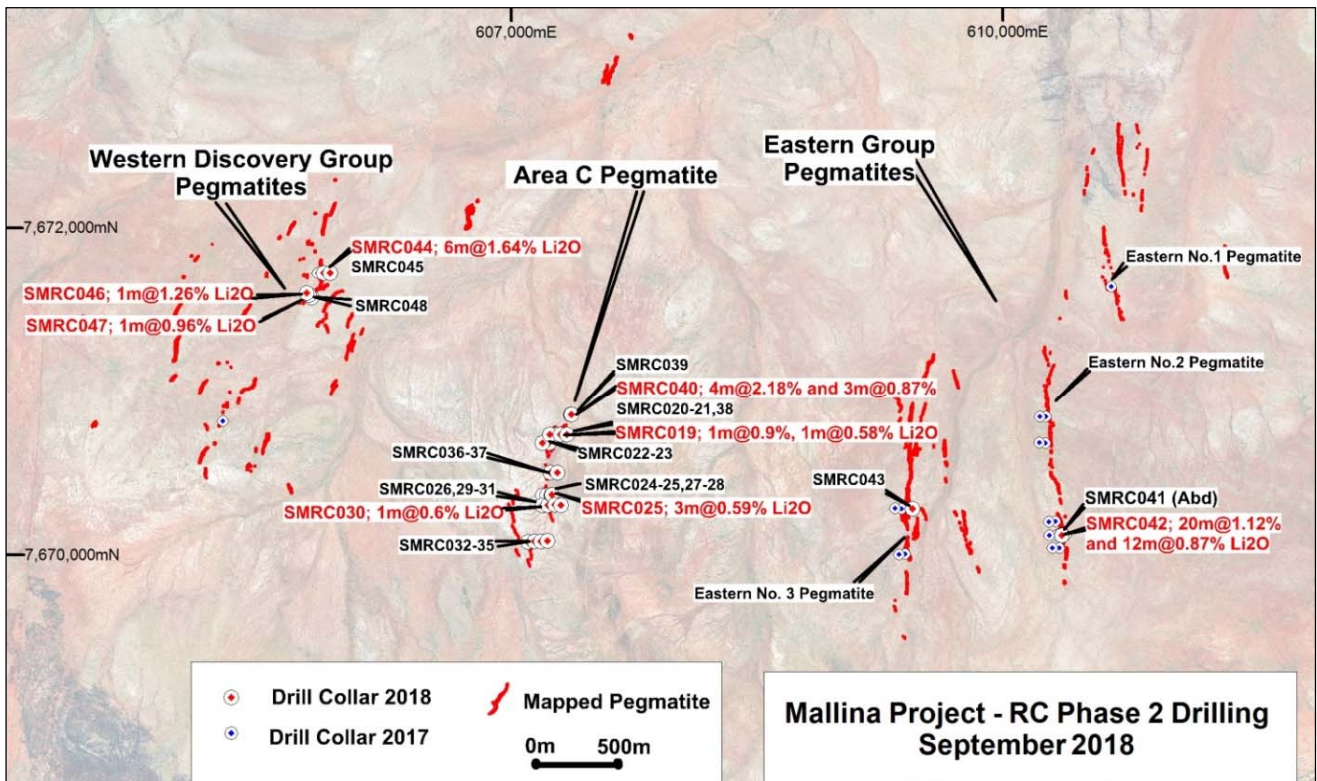


Figure 2 Mallina Pegmatites and Drilling

Twenty-one drill holes were completed at the Area C prospect. Drilling targeted the peak lithium soil anomalism and identified a complex series of narrow, east dipping pegmatite lenses. The northern drill line however, completed over an area of thin transported cover, intersected multiple thicker pegmatite with a best intercept in hole SMRC040 of 4m @ 2.18% Li₂O from surface, including 1m @ 3.18% Li₂O between 1-2m. The pegmatite was intersected from 0-22m and also returned 3m @ 0.87% Li₂O from 12m (see cross section, 7670850N below). The true thickness of the pegmatite units is not known. The drilling remains open at depth and to the east and north. The central and southern portions of Area C returned only narrow mineralisation with a best intercept of 1m @ 0.90% Li₂O.

Of the four holes targeting the Discovery prospect, hole SMRC044 returned a best intercept of 6m @ 1.64% Li₂O from 17m. Mineralisation in this east dipping pegmatite remains open to the north, where further drilling is being planned.

At the Eastern Group pegmatites, a down-dip drillhole was completed at Pegmatite 2, sited to test for depth variations in grade and to highlight any possible weathering effects. SMRC042 intersected pegmatite from 0m-125m with two zones of lithium mineralisation of 20m @ 1.12% Li₂O from 4m and 12m @ 0.87% Li₂O from 28m. This mineralisation, when combined with 2017 drill data identifies a near surface zone of mineralisation extending to some 50m depth. Structural studies indicate spodumene pegmatite has a moderate plunge to the north. This potential down plunge target remains untested.

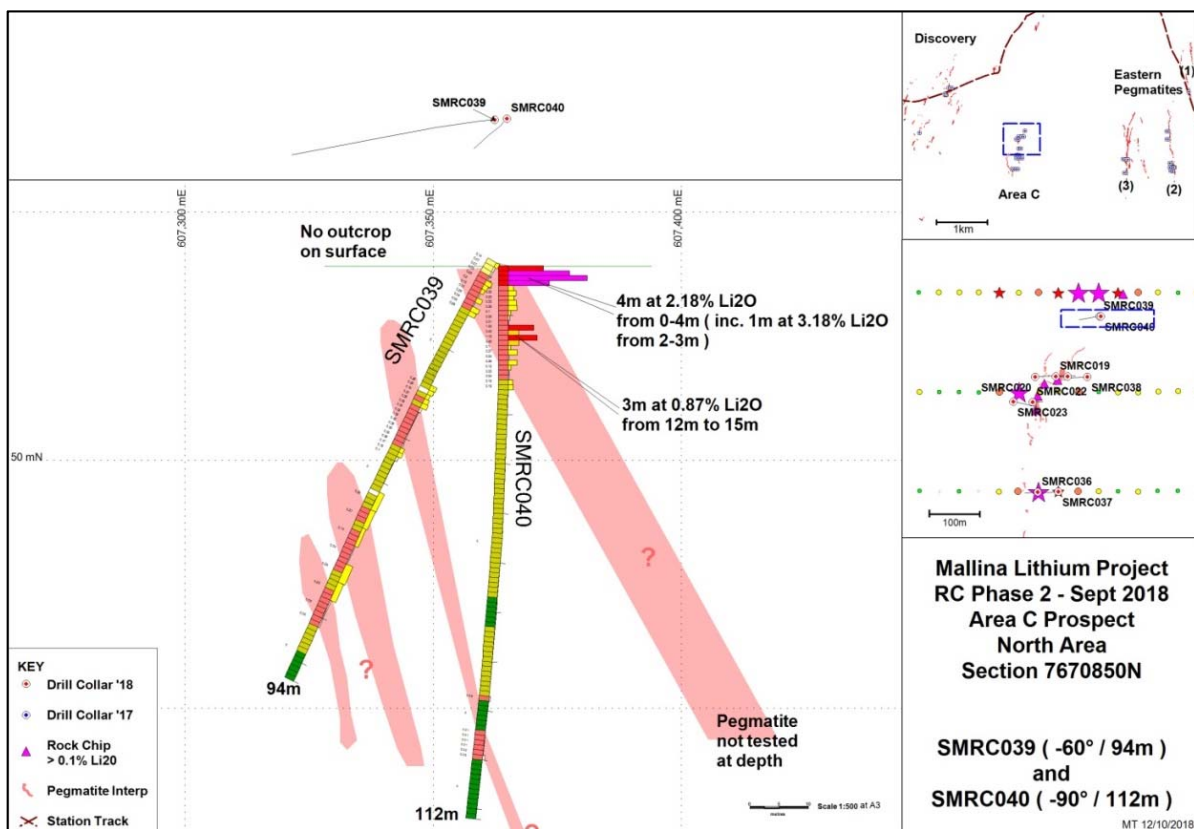


Figure 3 Drillhole Cross Section Area C 7670850N

Further drilling is required to understand the morphology of the pegmatites in more detail and to target potentially thickened portions of the spodumene mineralisation. The identification of spodumene pegmatite in the drilling, from surface and of good intensity (to a maximum 3.18% Li₂O) indicates a good potential for further mineralisation to be identified.

Tabba Tabba Project

The Tabba Tabba project comprises six tenements covering 588km², located 40km north of the Pilgangoora lithium mines. The main Tabba Tabba tenement, E45/2364, is centred in an area of historic tin and tantalum mining. The region is being actively explored, and FMG drilling 2km north of Sayona’s tenement boundary has returned significant mineralisation including 19m@ 1.38% Li₂O and 13m@ 2.09% Li₂O (MINDEX site 236614, see figure below).

During the quarter Sayona collected 556 soil samples and identified further pegmatite occurrences including new pegmatite at the Roadside prospect. Seven lithium (+/-tantalum-caesium-rubidium) geochemical anomalies, and three areas of fractionated LCT pegmatite have now been identified. Results are displayed in the figure below.

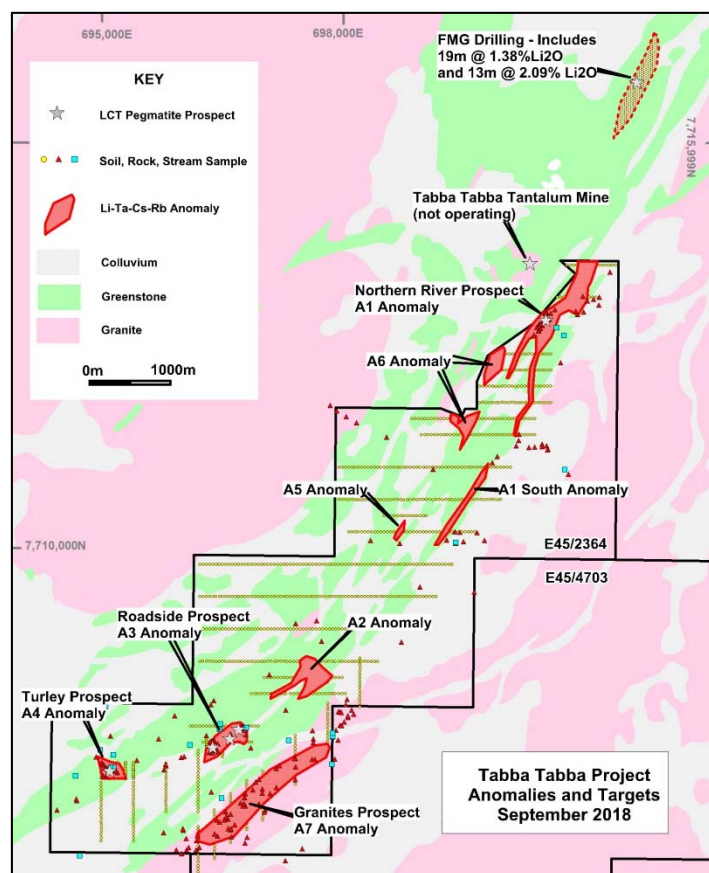


Figure 4 Tabba Tabba Project Anomalies

The largest geochemical anomaly is at the Northern River (A1) prospect, which is 2.3km in strike extent and up to 275m in width. The soil geochemistry peaks at 396ppm Li_2O and 441ppm Ta (not same sample). Within the anomaly lenses of rare metal LCT pegmatite crop out in a series of north east lenses along a 400m strike, confirming a likely pegmatite source to the broader anomaly. It is encouraging that the anomaly is located only 2km along strike to the south from the significant FMG drill mineralisation.

The Roadside prospect (A3 anomaly) extends for some 600m and includes three north-west striking tantalum rich pegmatite occurrences. Rock grab sampling over the recently identified central area returned up to 627ppm tantalum with anomalous lithium-cesium-rubidium. Each of the pegmatites is of short strike extent (maximum 200m) but they provide encouragement that a larger target related to these apothesis may be present at depth.

None of the prospects has been drilled before.

Additional exploration over Sayona's broader tenement holding around the Tabba Tabba area has included 45 rock samples, collected during regional reconnaissance. These tenement areas have not been previously explored for lithium and samples were collected to identify fractionated granites and pegmatites for a more detailed assessment. A best result of pegmatite from SP555896 returned 159ppm Li_2O , 48.5ppm tantalum, 155ppm cesium and 141ppm tin.

Moolyella and Other Pilbara Project Areas

The Moolyella project is located east of Marble Bar in an area of lithium, tin and tantalum mineralisation, including spodumene pegmatite associated with the intrusion of the Moolyella monzogranite. Within Sayona's tenure (three tenements covering 334km²) a number of lithium-cesium-tantalum (LCT) albite pegmatites have been identified. Orientation soil sampling over pegmatite has returned up to 437ppm Li_2O and follow up sampling is being planned.

Other Project Areas

No field exploration was carried out at the Deep Well Gold project, the Mt Edon Lithium project or the East Kimberley Graphite project during the quarter.

Corporate Activities

People

During the quarter Sayona announced the appointment of experienced mining industry communications and external relations specialist, Alexis Segal, to the role of Sayona Quebec Vice President, Corporate Affairs.

He previously held senior communications and corporate affairs roles at Rio Tinto, Aluminerie Alouette, the Port of Quebec Corporation and the City of Quebec.

Alexis has a strong track record of successful engagement with government, First Nations, landholders and other key stakeholders. He has a sound understanding of Canada's mining, infrastructure and government sectors and will be well positioned to drive the permitting process for the Authier project while ensuring commitment to corporate social responsibility and governance.

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Sayona Mining Limited is an Australian, ASX-listed (SYA) company focused on sourcing and developing the raw materials required to construct lithium-ion batteries for use in the rapidly growing new and green technology sectors. Please visit us as at www.sayonamining.com.au

Reference to Previous ASX Releases

This presentation refers to the following previous ASX releases:

- High Grade Lithium Assays Returned from Tansim Sampling 20 August 2018
- Authier Project Expanded JORC Ore Reserves & Resource 24 September 2018
- Positive Authier Definitive Feasibility Study, 24 September 2018
- New Sayona Quebec VP to Drive Authier Development 25 September 2018
- Phase 2 Drilling Completed at Mallina Lithium Project 31 October 2018

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and all material assumptions and technical parameters continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

Tenement Schedules

Australian Tenement Schedule				
Tenement	Name	Status	Interest at Beginning of Quarter	Interest at end of Quarter
E59/2092	Mt Edon	Granted	80%, with rights to 100% of pegmatite minerals*	80%, with rights to 100% of pegmatite minerals*
E59/2055	Mt Edon West	Granted	100% (pegmatite minerals)	100% (pegmatite minerals)
E45/2364	Tabba Tabba	Granted	Rights to 100% of pegmatite minerals*	100% (pegmatite minerals)
E45/4703	Tabba Tabba East	Granted	100%	100%
E45/4716	Red Rock	Granted	100%	100%
E45/4726	West Wodgina	Granted	100%	100%
E45/4738	Cooglegong	Granted	100%	100%
E45/4775	Carlindie	Granted	100%	100%
E80/4511	Western Iron	Granted	100%	100%
E80/4949	Corkwood	Granted	100%	100%
E47/3802	Friendly Creek	Granted	100%	100%0
E47/3950	Mt Dove	Granted	100%	100%
ELA47/3829	Deep Well	Application	100%	100%
ELA45/5288	Strelley	Application	100%	100%
ELA45/5289	Strelley West	Application	100%	100%
E47/2983	Mallina	Granted	Option Rights to 80%	Option Rights to 80%
E46/1103	Dorringtons	Granted	Option Rights to 80%	Option Rights to 80%
E45/4687	White Springs	Granted	Option Rights to 80%	Option Rights to 80%
E45/4721	Moolyella	Granted	Option Rights to 80%	Option Rights to 80%
E45/4727	Moolyella	Granted	Option Rights to 80%	Option Rights to 80%
E45/4700	Moolyella	Granted	Option Rights to 80%	Option Rights to 80%

Canadian Tenement Schedule			
Claim Number	Registered holder	Interest at Beginning of Quarter	Interest at end of Quarter
2116146	Sayona Mining Limited	100%	100%
2116154	Sayona Mining Limited	100%	100%
2116155	Sayona Mining Limited	100%	100%
2116156	Sayona Mining Limited	100%	100%
2183454	Sayona Mining Limited	100%	100%
2183455	Sayona Mining Limited	100%	100%
2187651	Sayona Mining Limited	100%	100%
2187652	Sayona Mining Limited	100%	100%
2192470	Sayona Mining Limited	100%	100%
2192471	Sayona Mining Limited	100%	100%
2194819	Sayona Mining Limited	100%	100%
2195725	Sayona Mining Limited	100%	100%
2219206	Sayona Mining Limited	100%	100%
2219207	Sayona Mining Limited	100%	100%
2219208	Sayona Mining Limited	100%	100%
2219209	Sayona Mining Limited	100%	100%
2240226	Sayona Mining Limited	100%	100%
2240227	Sayona Mining Limited	100%	100%
2247100	Sayona Mining Limited	100%	100%
2247101	Sayona Mining Limited	100%	100%